Thrombotest dilution curve

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Letter to the Editor

Thrombotest Dilution Curve

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Thrombos. Haemostas. (Stuttgart)

Thrombotest Dilution Curve

October 27, 1977

Dear Madam,

With much interest I read the remarks of Dr. A. Girolami on the paper of Briet et al. He is essentially right in stating that a plasma deficient in one coagulation factor will show in the thrombotest dilution curve a line intercepting the ordinate at a point higher than that for normal plasma. The reason for this phenomenon is simple. With normal plasmas or plasmas in which the rate limiting clotting factors (II, VII, X) are deficient to about the same extent extrapolation to the ordinate is extrapolation to a situation in which all three clotting factors are present in infinite amounts.

When one of the factors is lacking – in the most extreme case absent – extrapolation to infinite concentrations will still represent a situation in which the lacking factor is rate limiting, i.e. a high clotting time.

Careful reading of our articles "Kinetic aspects of the interaction of coagulation factors" I–VII (Thrombosis and Haemostasis 1965–1977) and of the literature cited therein will show that from the beginning we have been aware of this fact. The detection of inhibitors by the thrombotest dilution curve is only possible when no specific deficiencies exist. The remarks of Dr. Girolami are not superfluous though, as I have observed that time and again aberrant dilution curves are too easily interpreted in terms of inhibitory substance present. It is absolutely not true that Lineweaver-Burk plots are found only in single enzyme-substrate reactions.

Further reading (Hemker and Hemker 1969) will reveal to what extent the differences between the coagulation system and the Michaelis – Menten model of enzyme action influences the kinetics observed.

Yours sincerely,
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Reference

HEMKER, H. C. and HEMKER, P. W. (1969): The Kinetics of Enzyme Cascades. Proceedings of the Royal Society. *173,* 411.